

**Notice of Allowability**

Application No.

10/751,282

Applicant(s)

KOPP ET AL.

Examiner

Art Unit

Tuan N. Nguyen

2828

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 01/03/2007.
2. ☒ The allowed claim(s) is/are 1-21.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some\* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date \_\_\_\_\_
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

**DETAIL ACTION**

1. Declaration Affidavits filed 01/03/2007 has been accepted.

**REASON FOR ALLOWANCE**

*Allowable Subject Matter*

2. The following is an examiner's statement of reasons for allowance - Applicant's response filed on 01/03/2007 has been considered, with respect to claims 1,10,12,15,17,19 the references of the record fail to teach or suggest a laser producing a single mode large-area coherent lasing, a passive spatial electromagnetic radiation filter, and an electromagnetic radiation amplifier and methods there-of comprising: *the predefined profile  $c/2TN$ , where  $c$  is speed of light in vacuum, while  $T$  is the feedback structure thickness with refractive index  $N$ :*

**Claims 1, 15:**

wherein a light-emitting medium disposed within a feedback structure having a refractive index variation between a top and a bottom surfaces with an average refractive index  $N$  to produce a plurality of additional photonic modes, and variable excitation means connected to said feedback structure exciting said light-emitting medium to produce optical gain of a predetermined gain magnitude in said feedback structure, to cause coherent wide-area laser emission to occur at said predetermined frequency perpendicular to at least one of said top and bottom surfaces, wherein said wide-area laser emission remains coherent when said predetermined gain magnitude is selectively increased above said lasing threshold, and the predetermined frequency is greater than a value determined by given equation.

**Claims 10, 17:**

wherein said feedback structure only transmits electromagnetic radiation of said predetermined frequency and having a wave vector substantially normal thereto, such that said electromagnetic radiation is passively spatially filtered as it passes through said feedback structure, where the feedback structure photonic mode separated from a nearest mode frequency photonic mode by a frequency greater than  $c/2TN$ .

**Claims 12, 19:**

wherein said gain: a) ranges from a lower gain to a higher gain, b) is below a lasing threshold, and c) is sufficient to provide amplification for said emitted electromagnetic radiation at said predetermined frequency such that when said gain is changed between said lower gain and said higher gain, said electromagnetic radiation emitted from said second surface is amplified and changed in coherence area corresponding to said change in said gain.

3. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

**Communication Information**

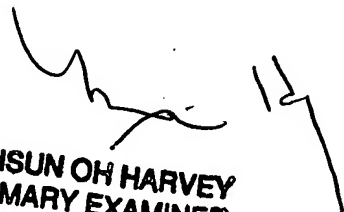
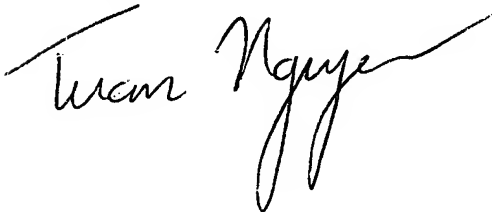
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan N Nguyen whose telephone number is (571) 272-1948. The examiner can normally be reached on M-F.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harvey Minsun can be reached on (571) 272-1835. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tuan N. Nguyen



MINSUN OH HARVEY  
PRIMARY EXAMINER